

Abstract of the Disclosure

An intravascular catheter having a shaft, at least a portion of which includes a braid reinforcement with a plurality of axial members disposed between the helical members that form the braid. The axial members provide a number of advantages including: maintaining one-to-one correspondence in axial manipulation; maintaining uniform flexibility in several planes of flexure; reducing the likelihood of causing a curling effect; increasing the strength of connections between shaft segments; uniformly increasing stiffness of the catheter; and increasing the burst strength of the catheter. By positioning the axial members between the helical members, the axial members do not create a protrusion and do not become fixed to any adjacent polymer layer. Thus, the benefits of axial members are retained, without creating the undesirable effects of friction caused by an axial protrusion and without creating the undesirable effects of limited flexure caused by an adjacent polymer layer becoming fixed to the axial member.

**CERTIFICATE UNDER 37 C.F.R. 1.10:** The undersigned hereby certified that this paper or papers, as described herein are being deposited in the United States Postal Service, "Express Mail Post Office to Addressee" having an Express Mail mailing label number of: EV 315612912 US, in an envelope addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 9th day of February 2004.

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